

REMARKS

Claims 1-7, 9-14 and 17-20 are pending in the application. By this Amendment, claim 5 is amended for clarity by changing the "equalizer control section" to the "equalizer control circuit." This amendment is consistent with the subsequently recited "equalizer control circuit."

Entry of the amendment is proper under 37 C.F.R. §1.116 because the amendment: (1) places the application in condition for allowance for the reasons set forth below; (2) does not raise any new issues requiring further search and/or consideration; and/or (3) places the application in better form for an appeal should an appeal be necessary. More specifically, the above amendment is merely for clarity and no new issues are raised. Entry is proper under 37 C.F.R. § 1.116.

The Office Action rejects claims 1-2, 4, 7, 10-14 and 17-19 under 35 U.S.C. §103(a) over U.S. Patent 6,714,799 to Park et al. (hereafter Park) in view of U.S. Patent 6,459,942 to Markow et al. (hereafter Markow) and U.S. Patent 5,745,583 to Koizumi et al. (hereafter Koizumi). The Office Action also rejects claims 5-6 and 20 under 35 U.S.C. §103(a) over Markow, Koizumi and U.S. Patent 6,011,853 to Koski et al. (hereafter Koski). Still further, the Office Action rejects claims 3 and 9 under 35 U.S.C. §103(a) over Park, Markow, Koizumi and further in view of U.S. Patent 5,566,237 to Dobbs et al. (hereafter Dobbs). The rejections are respectfully traversed with respect to the pending claims.

Independent claim 1 recites a speaker, a microphone, a CODEC, an equalizer and a CPU. Independent claim 1 also recites the equalizer adapted to adjust a timbre of the converted analog speech signal inputted thereto from the CODEC, the equalizer to receive analog speech signals

from the microphone and the equalizer to provide the converted analog speech signals to the speaker. Independent claim 1 further recites the CPU adapted to supply a timbre control signal corresponding to a frequency band set by a user to the equalizer, and to supply a digital speech signal received from another mobile communication terminal to the CODEC, the mobile terminal comprising a mobile telephone.

The applied references do not teach or suggest all the features of independent claim 1. More specifically, the Office Action relies on Park as a primary reference that teaches a mobile terminal that includes specific features such as the claimed speaker, microphone and CODEC. However, the Office Action (on pages 5-6) then relies on Markow and Koizumi as teaching features such as an equalizer and a CPU. However, applicant respectfully submits that Markow and Koizumi do not suggest features of a mobile telephone as specifically recited in independent claim 1.

Markow and Koizumi do not relate to features of a mobile telephone and/or a CDMA terminal. As is well known, a mobile telephone has specific size constraints and/or electrical constraints. Therefore, a reference teaching features of a mobile telephone and/or a CDMA terminal may not simply be combined with a second (or third) reference merely because the second (or third) reference relates to telecommunication services. That is, in order for there to be a proper combination, there must be some motivation and possibility to modify the mobile telephone and/or CDMA terminal to include specific features such as the claimed equalizer and CPU. Applicant respectfully submits that there is no motivation to modify Park's CDMA terminal so as to include an equalizer and/or CPU as recited in independent claim 1.

For example, Markow clearly relates to a speakerphone 18 and a modem 24. See Markow's Figure 4. The Office Action relies on Markow as allegedly teaching the claimed equalizer adapted to adjust a timbre of a converted analog speech signal inputted thereto from the CODEC and the equalizer to receive analog speech signals from the microphone and the equalizer to provide the converted analog speech signals to the speaker. However, Markow's equalizer 30 is provided within a speakerphone 18 and Markow's CODEC is provided within a modem 24. As is known to one skilled in the art, the speakerphone 18 and the modem 24 are not part of a mobile telephone. Further, Markow is clear that the modem 24 is separate from a phone line or cellular phone 26. See col. 2, lines 34-36. Hence, the modem 24 and the speakerphone 18 are clearly not components of a mobile telephone.

Markow expressly relates to problems of sound waves that travel between a speaker 14 and a microphone 16 of the speakerphone 18. Markow discloses using the equalizer and other features when acoustically coupling the speaker 14 and the microphone 16 of the speakerphone 18. See Markow's col. 1, lines 9-22, col. 3, lines 22-33, and col. 4, lines 4-11, for example. Applicant respectfully submits that there is no motivation to combine features of Markow's speakerphone 18 and modem 24 within a mobile telephone (or a CDMA terminal such as shown in Park). In fact, Markow expressly shows the speakerphone 18 and modem 24 provided outside of the phone line or cellular phone 26.

The Office Action (on page 5) states that it would have been obvious to incorporate the teaching of Markow with Park in order to reduce the acoustic signal traveling from a speaker to a microphone as suggested by Markow. However, the description of Markow's col. 1, lines 15-20,

which is cited in the Office Action, clearly relates to problems of a speakerphone and the acoustic coupling of the microphone and speaker of the speakerphone. Therefore, the motivation discussed in the Office Action is not proper motivation to modify a mobile telephone or a CDMA terminal such as described in Park. Rather, the motivation discussed in the Office Action clearly relates to the motivation to modify a speakerphone (such as in a secondary reference). Stated differently, the Office Action suggests modifying Park, but then cites motivation taken from Markow (which does not relate to Park). Therefore, applicant respectfully submits that the alleged motivation to combine Markow and Park is improper as it does not relate to a motivation to modify Park.

Additionally, applicant respectfully submits that the Office Action relies on impermissible hindsight in order to provide motivation to combine Markow and Park. That is, there is no suggestion in any of the prior art to modify a CDMA terminal so as include the claimed equalizer and CPU as recited in independent claim 1.

Additionally, Koizumi also does not relate to a mobile telephone. Rather, Koizumi relates to a playback system to adjust frequency characteristics according to specific music genres. See the Abstract and col. 1, lines 12-15. Therefore, Koizumi's features do not relate to a mobile telephone but rather relate to an audio device that includes an AM receiver, an FM receiver, a cassette tape deck and a CD player. See col. 2, lines 40-42. Further, Koizumi relates to reproducing sound by adjusting frequency characteristics according to music genres. There is no suggestion to apply this technique to Park and/or Markow as neither Park nor Markow relate to music genres. Applicant respectfully submits that one skilled in the art would not have been

motivated to modify a mobile telephone or a CDMA terminal (such as disclosed in Park) so as to include the ability to adjust frequency characteristics according to music genres (as in Koizumi). That is, Park's CDMA terminal does not adjust music genres. Therefore, applicant respectfully submits that the alleged motivation to combine Park (and Markow) and Koizumi is improper.

Applicant respectfully submits that the Office Action relies on impermissible hindsight in order to provide a motivation to modify Park and/or Markow so as to include features of Koizumi. The Office Action states that it would have obvious to incorporate the teaching of Koizumi in view of Park and Markow in order to automatically adjust the sound volume to a constant optimum level as suggested in Koizumi's col. 2, lines 10-14. However, Koizumi's col. 2, lines 10-14 relates to adjusting features for music genres. This is not motivation to modify the features of Park's CDMA terminal. Rather, these features relate to motivation to adjust characteristics of music genres in a playback system. Accordingly, the Office Action does not provide proper motivation in which to modify Park and/or Markow in view of Koizumi.

The Office Action also relies on Koizumi for features relating to the CPU. However, independent claim 1 clearly relates to a CPU adapted to supply a digital speech signal received from another mobile communication terminal to the CODEC. However, Koizumi's microcomputer 11 does not supply a digital speech signal received from another mobile communication terminal to a CODEC. Rather, Koizumi's microcomputer 11 merely receives a signal from a mode selection key 16. This signal is not received from another mobile communication terminal. Further, Koizumi's microcomputer 11 relates to performing playback control based on characteristics that are stored beforehand in a memory 12 and not to a speech

signal received from another mobile communication terminal. Accordingly, Koizumi does not teach or suggest the claimed CPU, as recited in independent claim 1.

The Office Action (on page 5) also appears to state that Markow discloses a DSP to supply a digital speech signal received from another communication terminal to the CODEC. The Office Action cites Markow's DSP 32. However, Markow's DSP 32 is provided in a modem (and not a mobile telephone). Further, Markow's DSP 32 does not supply a timbre control signal corresponding to a frequency band set by a user to an equalizer. The Office Action appears to cite features of a CPU within two different references (i.e., Markow and Koizumi) even though the features are for two different purposes. There is no suggestion that these separate operations are performed in one mobile telephone. Applicant respectfully submits that this teaches that the claimed CPU is not taught by the applied references.

For at least the reasons set forth above, the applied references do not teach or suggest all the features of independent claim 1. Thus, independent claim 1 defines patentable subject matter.

Independent claim 7 recites a microphone, a speaker, an antenna, an input device, a converting device, an equalizing device and a control device. Independent claim 7 also recites the converting device to convert a digital signal into an analog signal, the digital signal being based on a signal received from the antenna. Independent claim 7 also recites the equalizing device coupled to the converting device to adjust the analog signal and to provide the adjusted analog signal to the speaker. Still further, the control device to provide a timbre control signal to the equalizing device, the timbre control signal being based on the frequency band set by the user,

the mobile terminal comprising a mobile telephone. For at least similar reasons as set forth above, the applied references do not teach or suggest all the features of independent claim 7. Thus, independent claim 7 defines patentable subject matter.

Independent claim 5 recites a microphone, a speaker, a CODEC, a CPU, an equalizer control circuit and an equalizer. The CODEC adapted to perform an analog-digital conversion for the transmitting speech signal and a digital-analog conversion for the received speech signal. The CPU adapted to generate a control signal according to a frequency band set by a user. The equalizer control circuit adapted to generate a timbre control signal according to the control signal of the CPU. Still further, independent claim 5 recites the equalizer adapted to adjust a frequency band of the transmitting/received speech signals according to the timbre control signal inputted thereto from the equalizer control circuit, the equalizer being connected to the microphone, the speaker and the CODEC in such a fashion that the equalizer is disposed between the microphone/speaker and the CODEC, the mobile communication terminal comprising a mobile telephone.

For at least similar reasons as set forth above, the applied references do not teach or suggest all the features of independent claim 5. Additionally, the Office Action relies on Koski as disclosing that the mobile communication terminal comprises a mobile telephone. For at least the reasons set forth above, Markow and Koizumi may not simply be combined to include features for a mobile telephone. Applicant respectfully submits that the Office Action does not provide proper motivation to modify Markow and Koizumi so as to include the features of Koski. That is, the Office Action states that it would have been obvious to incorporate the

teaching of Koski (i.e., a mobile phone) into Markow and Koizumi in order to allow for hands free operation. It is respectfully submitted that this modification is improper as there is no motivation to modify Markow's speakerphone and modem and Koizumi's playback system so as to include a mobile telephone.

Further, applicant respectfully submits that the modification of Markow's speakerphone, which includes the speaker 14 and the microphone 16, clearly would destroy the express purpose of Markow. Such a modification is not permissible in a determination of obviousness when modifying a primary reference. See MPEP §2143.01(iii) in which it is stated that if the proposed modification would render the reference unsatisfactory for its intended purpose, then there is no suggestion and motivation to make the proposed modification. The alleged modification set forth in the Office Action clearly would destroy the express purpose of Markow, namely the problems of the speakerphone. For at least the reasons set forth above, the applied references do not teach or suggest all the features of independent claim 5. Thus, independent claim 5 defines patentable subject matter.

For at least the reasons set forth above, each of independent claims 1, 5 and 7 defines patentable subject matter. Each of the dependent claims depends from one of the independent claims and therefore defines patentable subject matter at least for this reason. In addition, the dependent claims recite features that further and independently distinguish over the applied references.

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CONCLUSION

In view of the foregoing, it is respectfully submitted that the application is in condition for allowance. Favorable consideration and prompt allowance of claims 1-7, 9-14 and 17-20 are earnestly solicited. If the Examiner believes that any additional changes would place the application in better condition for allowance, the Examiner is invited to contact the undersigned attorney at the telephone number listed below.

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this, concurrent and future replies, including extension of time fees, to Deposit Account 16-0607 and please credit any excess fees to such deposit account.

Respectfully submitted,
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